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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,345	10/28/2003	Richard E. Walters	03-384	2569

7590
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8 Grovepoint Court
Rockville, MD 20854

08/06/2007

EXAMINER

BEISNER, WILLIAM H

ART UNIT	PAPER NUMBER
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1744

MAIL DATE	DELIVERY MODE
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08/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/694,345	Applicant(s) WALTERS ET AL.	
	Examiner William H. Beisner	Art Unit 1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 5/4/2007. These drawings are acceptable.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malin et al. (US 5,643,742) in view of Giaever et al. (US 5,187,096).

The reference of Malin et al. discloses a multiple electrode pair array apparatus (10) for use with a multiple well plate (14) having multiple wells (16) distributed in a two-dimensional matrix array having R rows and C columns. The apparatus includes a non-conductive base member (20) and an array of pairs of electrodes (38). The reference discloses that each electrode includes an individual trace such that an alternating current voltage can be selectively applied across each pair of electrodes (See column 5, lines 1-61).

Claim 1 differs by reciting that the apparatus includes plural row conductors wherein each conductor is electrically connected to corresponding first electrodes in a corresponding row of first electrodes and a plurality of column conductors wherein each conductor is electrically connected to corresponding second electrodes in a corresponding column of second electrodes and are perpendicular to the row conductors.

The reference of Giaever et al. discloses that it is known in the art to electrically connect the first electrodes (18) in a row to a row conductor (36) and to electrically connect the second electrodes (30) in a column to a column conductor (38) that is perpendicular to the row conductors (36). In view of this teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the electrodes of the primary reference with common conductors as suggested by the reference of Giaever et al. for the known and expected result of providing an alternative means recognized in the art for selectively selecting a pair of

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electrodes within an array or matrix of electrodes to be electrically connected to a voltage or current source.

With respect to claim 2, the first and second electrodes of Malin et al. are parallel to one another.

With respect to claim 3, whether the conductive traces are provided on the top surface or bottom surface of the base member would have been well within the purview of one having ordinary skill in the art while providing the required electrical connections suggested by the prior art references.

With respect to claim 4, the spacing of the electrode pairs is such that they can be received within the wells of a well plate device.

With respect to claim 5, if electrical connectors are not inherently encompassed by the combination of the references, the use of electrical connectors for electrically connecting the base member or board with a control device would have been obvious for the known and expected result of allowing the control device to be easily connected with a plurality of different base members.

With respect to claims 6 and 7, the provision of access openings within the base member would have been obvious to one of ordinary skill in the art for the known and expected result of providing access to the wells during use of the electrode pairs for adding and/or removing samples and/or reagents.

Response to Arguments

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6. With respect to the rejection of Claims 1-7 under 35 U.S.C. 103(a) as being unpatentable over Malin et al. (US 5,643,742) in view of Giaever et al.(US 5,187,096), Applicants argue that the rejection is improper for the following reasons:

With respect to the reference of Malin et al., Applicants comment (See pages 12-14 of Applicants' response filed 5/4/2007) that the 24 wells and 24 pairs of electrodes of the reference of Malin et al. require 48 separate conductors and 24 switches, while a device of the instant invention including 24 wells would only require 10 conductors and 10 switcher for 24 pairs of electrodes. Applicants also stress that the electrodes of Malin et al. are not placed against the walls of the well in which the electrodes are placed.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, it is the combination of the teachings of the references of Malin et al. and Giaever et al. that meet the instant claim language rather than the single disclosure of the reference of Malin et al. The Examiner maintains that the combination of the references of Malin et al. and Giaever et al. would result in a device that includes an electrode array device that is capable of being used with a well plate with nonconductive wells.

With respect to the position of the electrodes relative to the walls of the wells, claim 4 does not positively recite the wells as part of the device. Based merely on the well plate to be used with the electrode cover, the pairs of electrodes would be capable of being placed against the walls of a well plate that includes wells of the same spacing but of a smaller diameter. Note

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a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

With respect to the reference of Giaever et al., Applicants remark (See pages 14-16 of Applicants' response filed 5/4/2007) that the device of the reference of Giaever et al. requires integrated well/electrodes and does not employ a well plate having multiple nonconductive wells as is required of the instant invention.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, it is the combination of the teachings of the references of Malin et al. and Giaever et al. that meet the instant claim language rather than the single disclosure of the reference of Giaever et al. The Examiner maintains that the combination of the references of Malin et al. and Giaever et al. would result in a device that includes an electrode array device that is capable of being used with a well plate with nonconductive wells.

With respect to the combination of the references of Malin et al. and Giaever et al., Applicants argue (See pages 17-18 of Applicants' response filed 5/4/2007) that if the benefits of combining the reference of Giaever et al. and Malin et al. would have been obvious then the inventors of Malin et al. would have done so because the Giaever et al. reference was in the public domain prior to the invention encompassed by the Malin et al. reference. Applicants

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stress that since Malin et al. is silent with respect to the teachings of Giaever et al., this is evidence that the references should not be combined.

In response, Applicants' comments are not found to be persuasive because whether or not the disclosure of Giaever et al. was available to the inventors of the Malin et al. reference is immaterial. Using Applicants' logic, the Examiner would not be permitted to combine references as enabled by 35 USC 103 and would only be capable of rejection claims under 35 USC 102. In this case, the Examiner has provided the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a). Forth these reasons the rejection is deemed proper.

With respect to claim 4, Applicants argue (See page 18 of Applicants' response filed 5/4/2007) that the rejection of record does not provide the "gap" recited in claim 4.

In response, claim 4 does not positively recite the wells as part of the device. Based merely on the well plate to be used with the electrode cover, the pairs of electrodes would be capable of being placed against the walls of a well plate that includes wells of the same spacing but of a smaller diameter. Note a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

With respect to claim 6, Applicants argue (See page 19 of Applicants' response filed 5/4/2007) that neither the references of Malin et al. or Giaever et al. disclose the claimed openings.

In response, the Examiner is of the position that while the references of Malin et al. and Giaever et al. are silent with respect to openings in the cover of the well device, the level of skill in the art would allow one of ordinary skill in the art to recognize that providing openings in the cover plate of Malin et al. would provide a predictable result of allowing the contents of the wells to be accessed without removing the electrodes from the wells.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Beisner whose telephone number is 571-272-1269. The examiner can normally be reached on Tues. to Fri. and alt. Mon. from 6:15am to 3:45pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys J. Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William H. Beisner/
Primary Examiner
Art Unit 1744

WHB